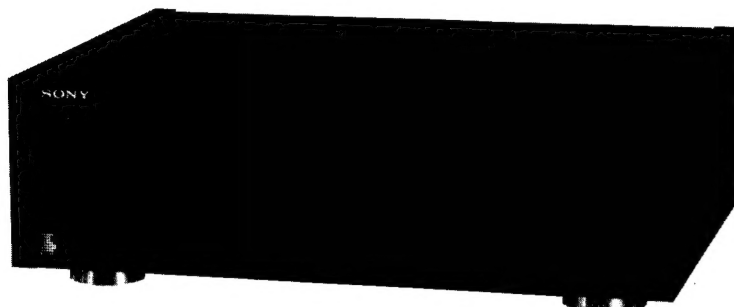


# TA-N55ES

## SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model  
UK Model*



### SPECIFICATIONS

#### AUDIO POWER SPECIFICATIONS

##### POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 4 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 150 watts per channel minimum RMS power, with no more than 0.01 % total harmonic distortion from 250 milliwatts to rated output.

With 8 ohm loads, both channels driven, from 20 - 20,000 Hz; rated 110 watts per channel minimum RMS power, with no more than 0.05 % total harmonic distortion from 250 milliwatts to rated output.

#### Other specifications

Item	Condition	Model except for North Europe	Model for North Europe
Continuous RMS power output(both channels driven simultaneously)	4 ohms 20 Hz - 20 kHz, THD 0.01 %	150 W + 150 W (DIN: 160 W + 160 W)	—
	6 ohms 20 Hz - 20 kHz, THD 0.03 %	125 W + 125 W (DIN: 135 W + 135 W)	100 W + 100 W (DIN: 120 W + 120 W)
	8 ohms 20 Hz - 20 kHz, THD 0.05 %	110 W + 110 W (DIN: 120 W + 120 W)	80 W + 80 W (DIN: 110 W + 110 W)
	8 ohms monaural, THD 0.05 %	300 W (DIN: 350 W)	—
	12 ohms monaural, THD 0.05 %	—	200 W (DIN: 235 W)

— continued on next page —



STEREO POWER AMPLIFIER  
**SONY®**

Dynamic power	1 ohm stereo (monaural)	450 W (—)	450 W (—)
	2 ohms stereo (monaural)	400 W (750 W)	325 W (625 W)
	4 ohms stereo (monaural)	290 W (680 W)	220 W (450 W)
	8 ohms stereo (monaural)	150 W (500 W)	125 W (370 W)
Power bandwidth (IHF)	4 ohms, THD 0.05 %	5 Hz - 50 kHz at 75W	—
	8 ohms, THD 0.05 %	5 Hz - 50 kHz at 55 W	
Dynamic headroom ('78 IHF)	4 ohms	2.8 dB	—
	8 ohms	1.8 dB	
Total harmonic distortion	4 ohms, at 10 watt output	0.008 %	—
	6 ohms, at 10 watt output	0.006 %	
	8 ohms, at 10 watt output	0.004 %	
Intermodulation (IM) distortion 60 Hz:7 kHz = 4:1	4 ohms, at rated output	0.008%	—
	6 ohms, at rated output	0.006%	
	8 ohms, at rated output	0.004%	
Damping factor	8 ohms, 1 kHz	100	
Slew rate	—	120 V/μsec, 250 V/μsec (inside)	
Residual noise	network A	Less than 90 μV	
Frequency response	INPUT	5 Hz - 200 kHz $+0_{-3}$ dB	5 Hz - 100 kHz $+0_{-3}$ dB
Input sensitivity	INPUT	180 mV, 20 kohms	
S/N (network) '78 IHF	INPUT	120 dB (A)	

### General

System Super legato linear, purecomplementary SEPP power amplifier, powerful power supply

#### Power requirements

US, Canadian model:

120 V AC, 60 Hz

AEP, WG model:

220 V AC, 50/60 Hz

UK model:

240 V AC, 50 Hz

#### Power consumption

US model: 280 watts

Canadian model: 580 VA

UK model: 760 watts

AEP model: 190 watts

WG model: 310 watts

#### Dimensions

UK model:

Approx. 430 x 150 x 365 mm (w/h/d)

(16  $\frac{7}{8}$  x 5  $\frac{7}{8}$  x 14  $\frac{3}{8}$  inches)

Except for UK model:

Approx. 467 x 150 x 365 mm (w/h/d)

(18  $\frac{3}{8}$  x 5  $\frac{7}{8}$  x 14  $\frac{3}{8}$  inches)

#### Weight

UK model:

Approx. 11.2 kg (24 lb. 12 oz.), net

Except for UK model:

Approx. 12.2 kg (26 lb. 14 oz.), net

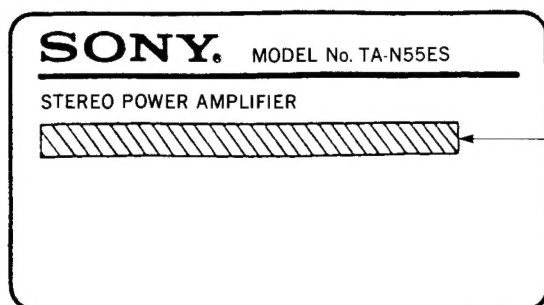
#### Supplied accessories

Screws (8) (except for UK model)

Design and specifications subject to change without notice.

### MODEL IDENTIFICATION

— Specification Label —



US model: AC 120V 60Hz

280W

Canadian model: AC 120V 60Hz



580VA

AEP, WG (West Germany) model: AC 220V~50/60Hz


UK model: AC 240V~50/60Hz

## SERVICING NOTES

### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SAFETY CHECK-OUT

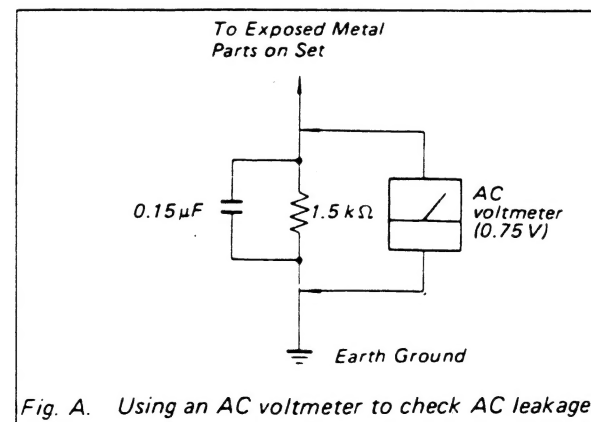
After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

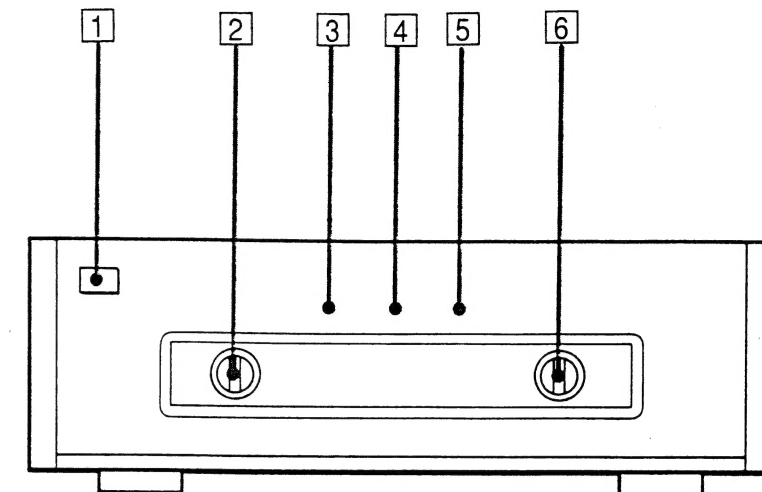
### LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



## SECTION 1 GENERAL



### 1 POWER switch

### 2 SPEAKERS selector

Selects speaker system A, B or both (A+B). For headphone monitoring on the connected preamplifier, set the selector to OFF.

### 3 PROTECTION indicator

Lights up for approximately 4 seconds immediately after turning on the unit. This indicates that the built-in muting circuit is activated.

In normal operating conditions, this does not light. If it lights up (speaker sound is not heard) while operating, an abnormality has occurred. In this case, disconnect the AC power cord and check the connected components and speaker systems.

### 4 STEREO indicator

Lights up when OPERATION is set to STEREO.

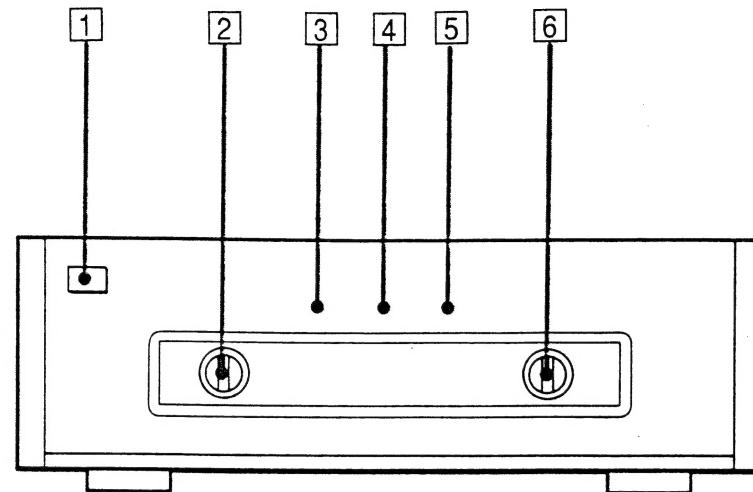
### 5 MONO indicator

Lights up when OPERATION is set to MONO.

### 6 ATTENUATOR

Control input signal sound level from the preamplifier. Normally, set it to the click-in center position.

## SECTION 1 GENERAL



### 1 POWER switch

### 2 SPEAKERS selector

Selects speaker system A, B or both (A+B).  
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Control input signal sound level from the preamplifier.  
Normally, set it to the click-in center position.

## SECTION 2 ELECTRICAL ADJUSTMENTS

### PRECAUTIONS

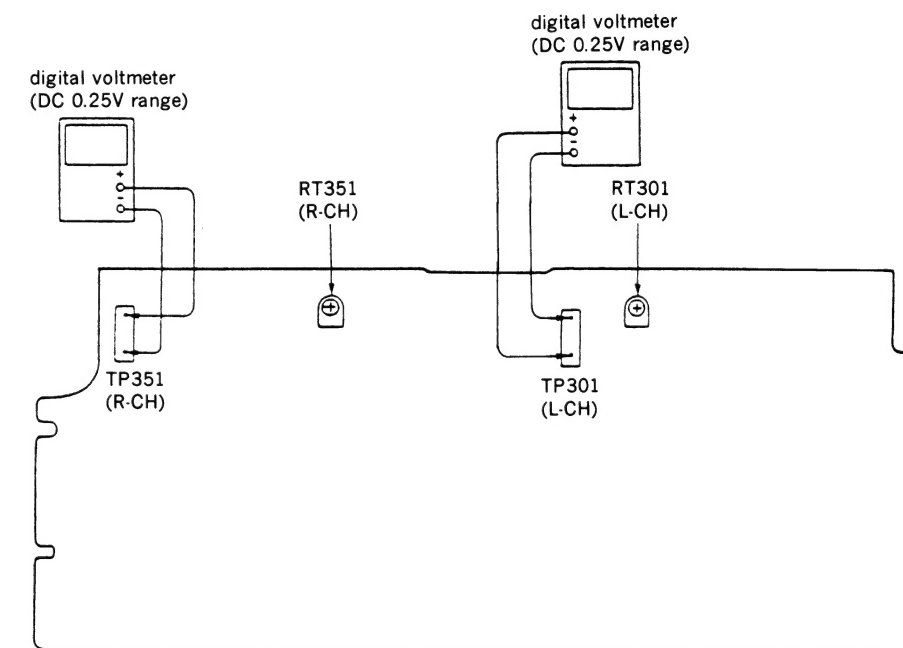
1. Adjust the idling after tuning the unit on for about 10-15 minutes, giving it time to warm up.
2. Always make sure to adjust the idling when repairing the power amp section or when replacing any parts.

### [IDLING ADJUSTMENT]

Procedure :

Set the ATTENUATOR control as low as possible and adjust RT301 (L-CH) and RT351 (R-CH) so that the voltmeter reads 7mV at TP301 (L-CH) and TP351 (R-CH).

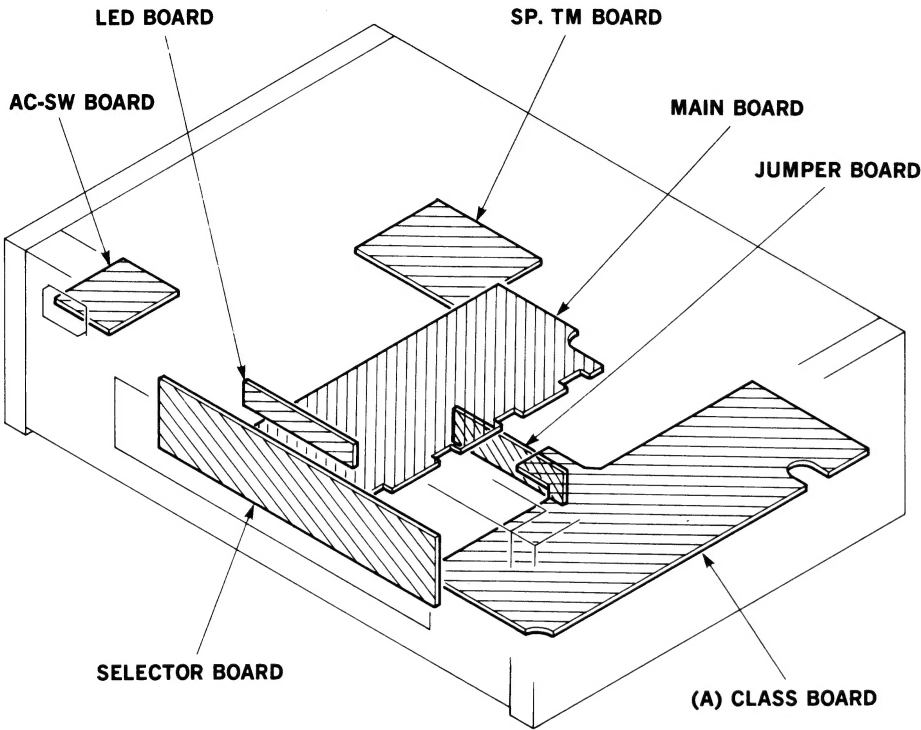
Adjustment Location : power board





SECTION 3  
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

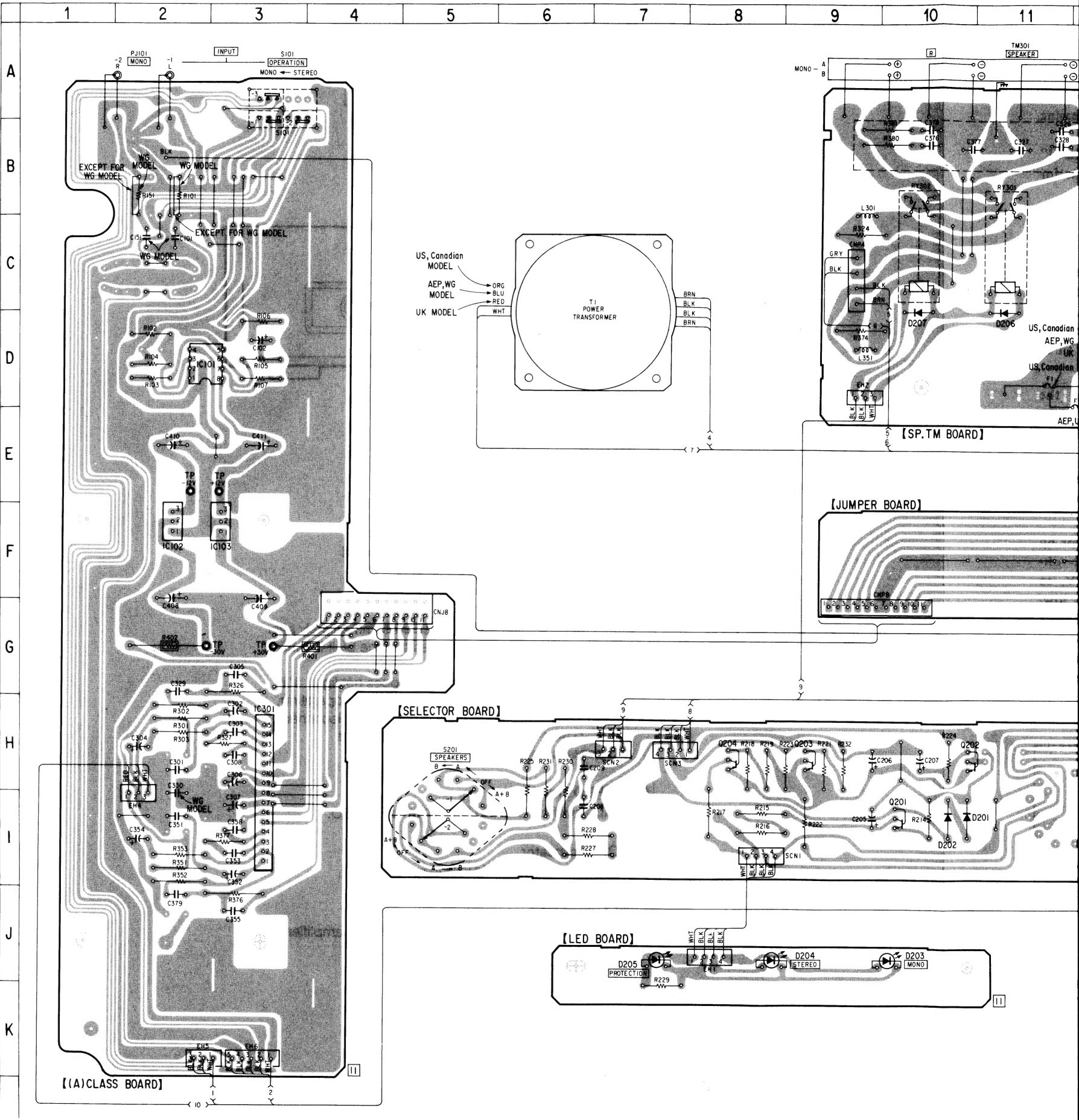


● Semiconductor Location

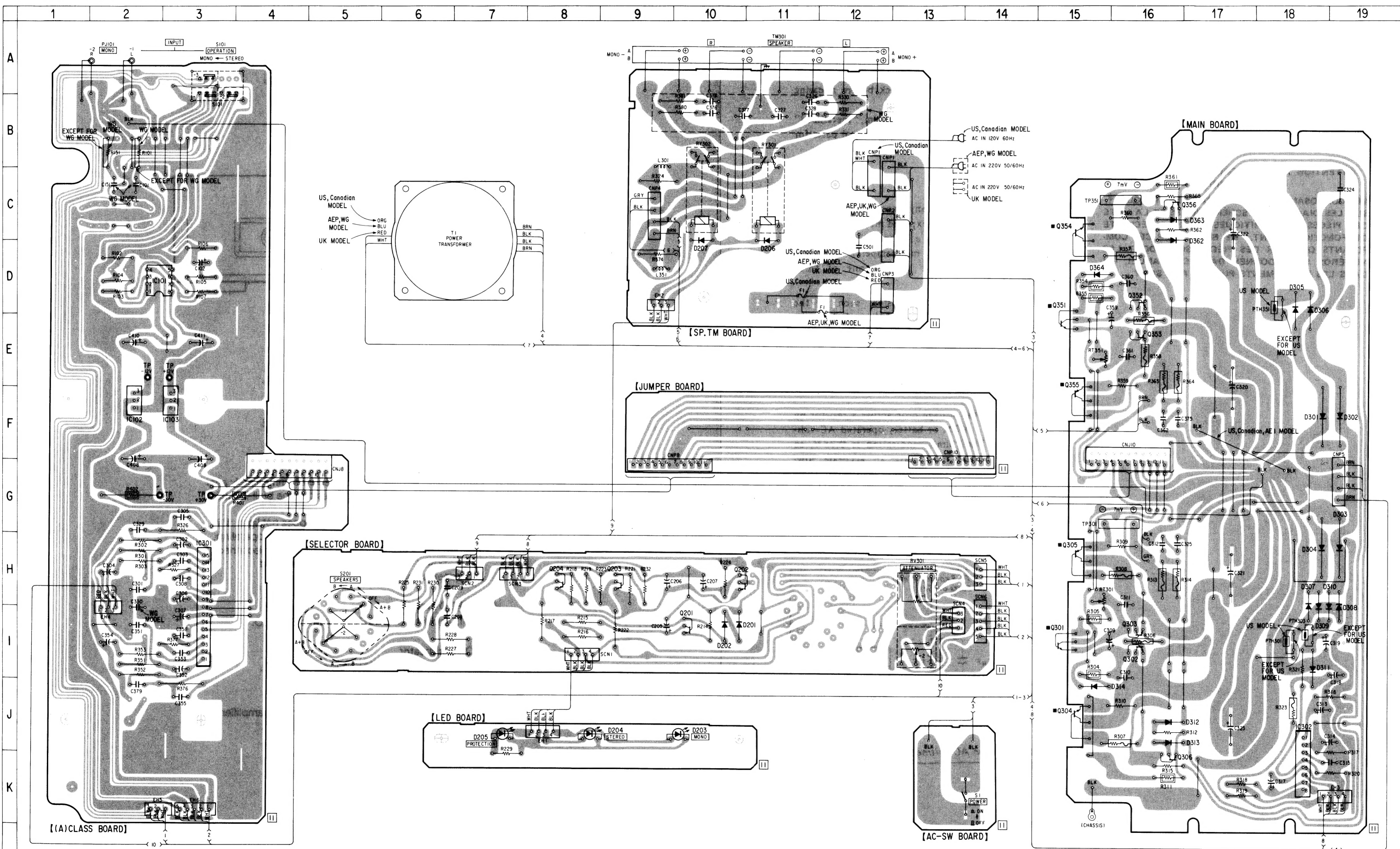
Ref. No.	Location
D201	I-10
D202	I-10
D203	J-10
D204	J-8
D205	J-7
D206	C-11
D207	C-10
D301	E-18
D302	F-19
D303	G-19
D304	G-18
D305	C-18
D306	C-18
D307	G-18
D308	G-19
D309	G-18
D310	G-18
D311	H-18
D312	J-16
D313	J-16
D314	I-15
D362	C-16
D363	C-16
D364	D-15
IC101	D-2
IC102	F-2
IC103	F-3
IC301	H-3
IC302	I-18
Q201	I-10
Q202	H-10
Q203	H-9
Q204	H-8
Q301	I-15
Q302	I-16
Q303	I-16
Q304	J-15
Q305	H-15
Q306	J-16
Q351	D-15
Q352	D-16
Q353	E-16
Q354	C-15
Q355	E-15
Q356	C-16

Note:  
○ : parts extracted from the component side.  
● : parts mounted on the conductor side.

3-2. PRINTED WIRING BOARDS

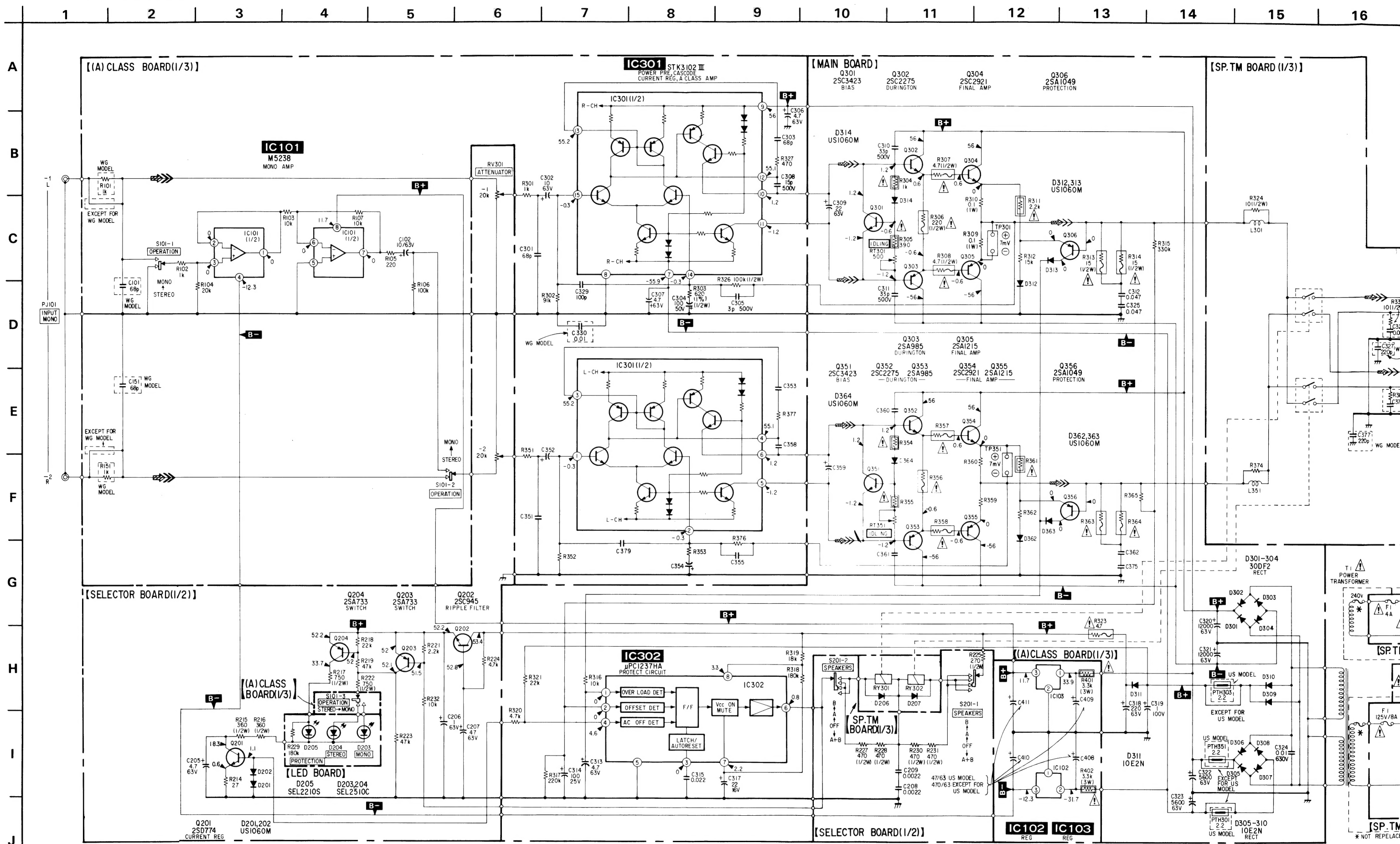


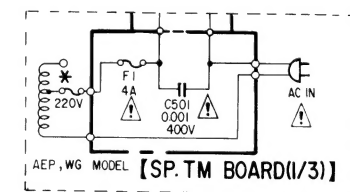
### 3-2. PRINTED WIRING BOARDS





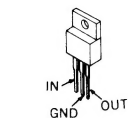
# 3-3. SCHEMATIC DIAGRAMS



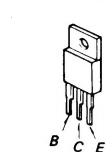


## ● SEMICONDUCTOR LEAD LAYOUTS

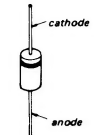
**M5F78M12**



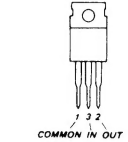
2SA985A-P  
2SC2275-P



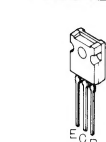
**10E2N**



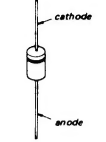
**M5F79M12**



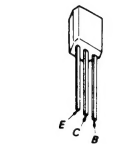
**2SC3423-O**



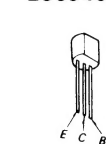
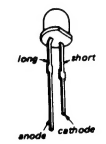
**30DF2**



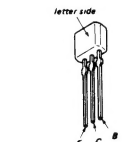
**2SA1049**



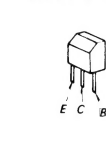
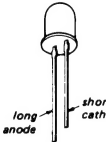
**2SC945-P**

**SEL2210S**

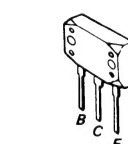
**2SA1175-HFE**



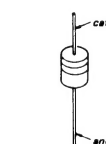
2SD774-34

**SEL2510C**



2SA1215M-O  
2SC2921M-O





**1SS120**




**Note:**



- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
- Components for right channel have same values as for left channel. Reference numbers are coded from 300.
-  : nonflammable resistor.
-  : fusible resistor.

**Note:**

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

**Note:**

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



-  : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.  
no mark: PHONO
- Voltages are taken with a VOM (Input Impedance  $10M\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
- Signal path.  
 : PHONO  
WG: West Germany  
CND: Canadian


SECTION 4  
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

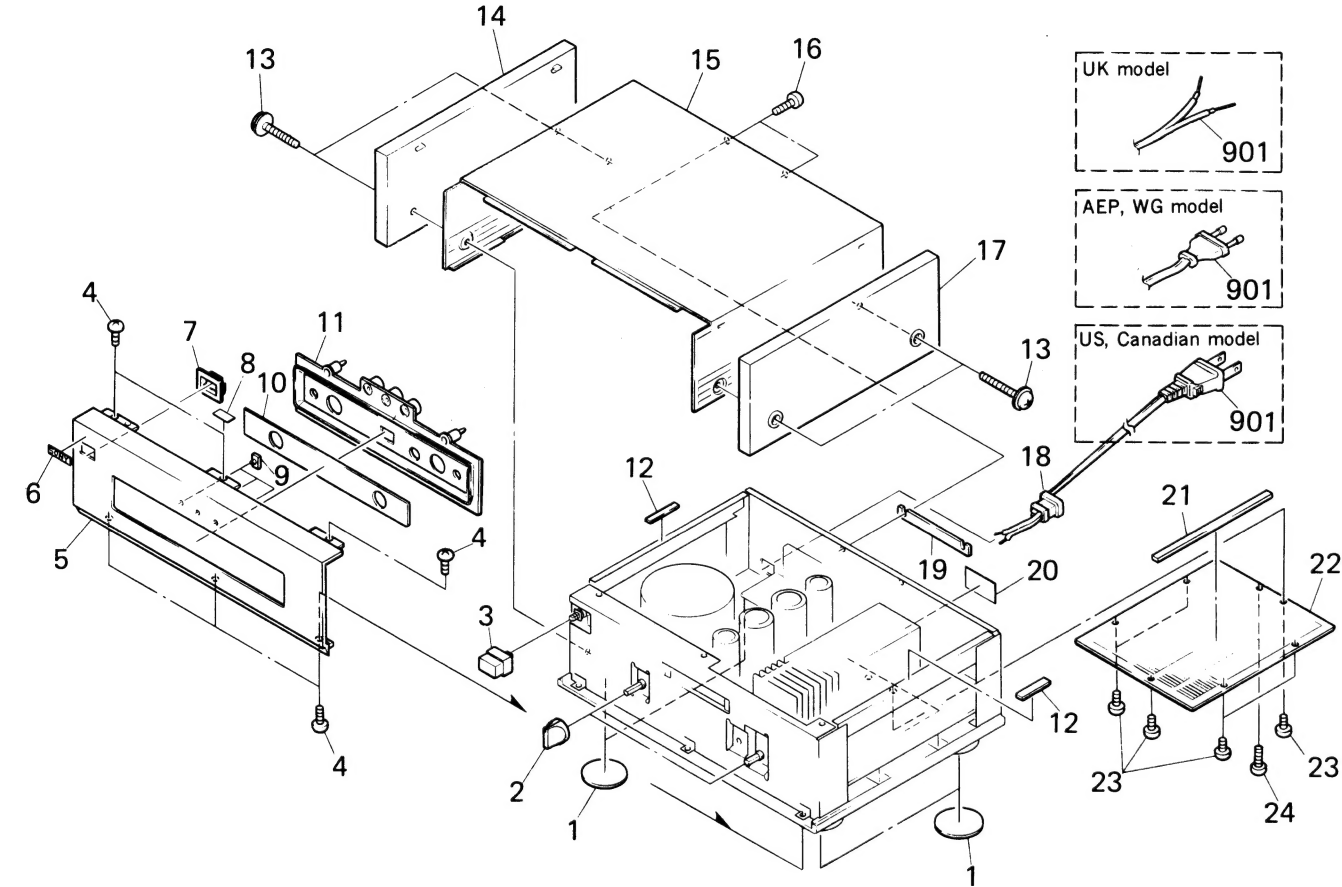
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts  
Example:  
(RED) ... KNOB, BALANCE (WHITE)  
↑ Cabinet's Color      ↑ Parts' Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

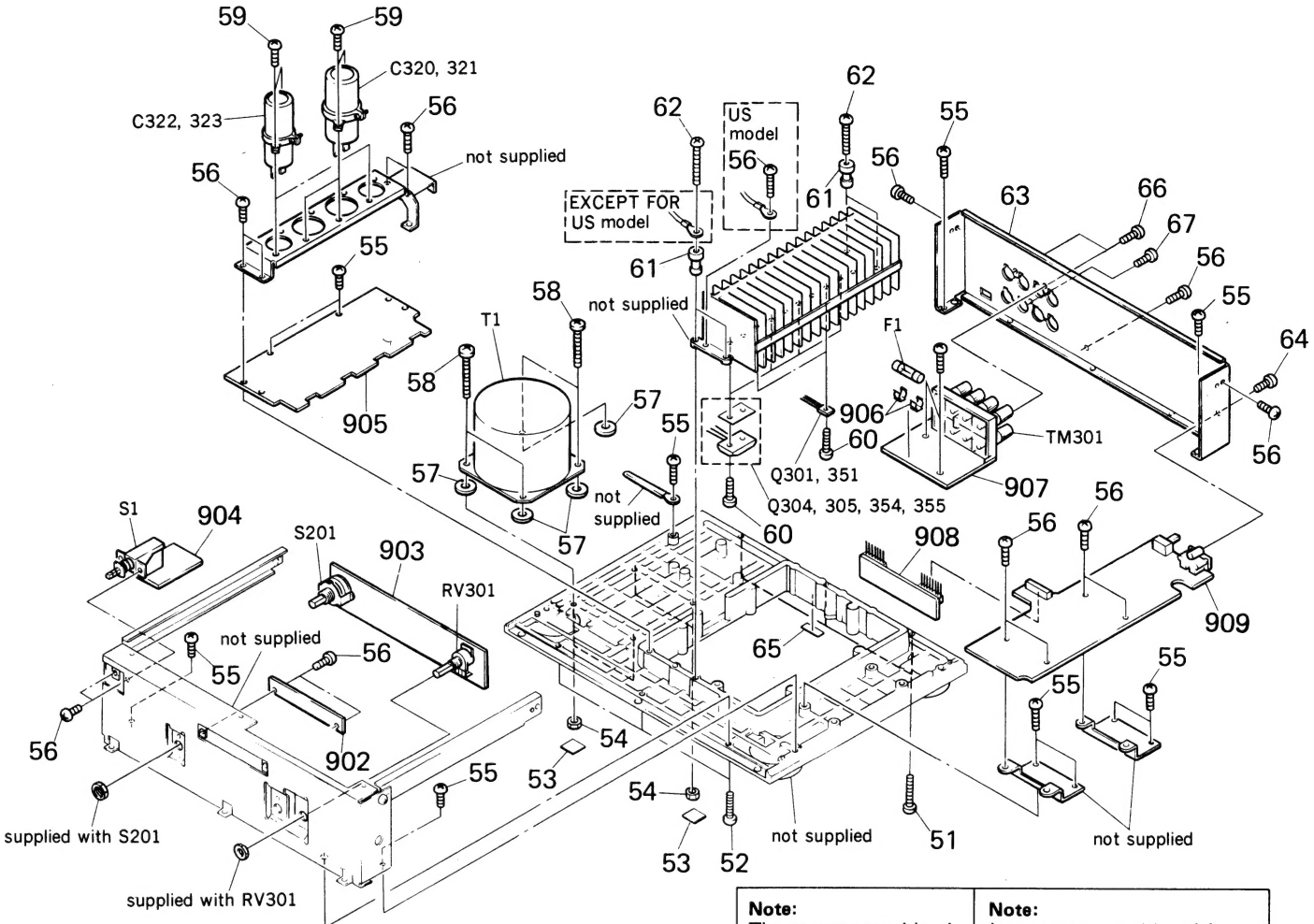
WG: West Germany



4-1. CABINET SECTION




Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
1	*4-923-850-01	FOOT (DIA. 46)		16	7-685-873-09	SCREW +BVTT 3X10 (S)	
2	4-916-745-01	KNOB (DIA. 21)		17	X-4933-002-1	(US, Canadian, AEP) ... PLATE (RIGHT) ASSY, SIDE	
3	4-917-460-01	KNOB, POWER		17	X-4933-004-1	(WG) ... PLATE (RIGHT) ASSY, SIDE	
4	7-682-547-09	SCREW +BVTT 3X6 (S)		18	*3-703-244-00	BUSHING (2104), CORD	
5	4-933-018-11	(US, Canadian) ... PANEL, FRONT		19	*4-929-232-01	SPACER	
5	4-933-018-21	(AEP, UK, WG) ... PANEL, FRONT		20	*4-933-006-01	(US) ... LABEL, MODEL NUMBER (U)	
6	4-908-884-01	EMBLEM, SONY		20	*4-933-007-01	(Canadian) ... LABEL, MODEL NUMBER (CA)	
7	4-908-044-11	ESCUTCHEON, POWER KNOB		20	*4-933-008-01	(AE1) ... LABEL, MODEL NUMBER (AE1)	
8	*3-846-067-21	(UK) ... SPACER (C)		20	*4-933-009-01	(AE2) ... LABEL, MODEL NUMBER (AE2)	
9	4-884-612-11	INDICATOR, EJECT		20	*4-933-010-01	(WG) ... LABEL, MODEL NUMBER (AE4)	
10	4-933-013-11	PLATE (AL), ORNAMENTAL		20	*4-933-011-01	(UK) ... LABEL, MODEL NUMBER (UK)	
11	4-933-014-01	ESCUTCHEON		21	*4-916-782-21	DAMPER	
12	*2-527-517-00	(UK) ... CUSHION, CASE RETAINER		22	*4-916-732-01	BOARD, BOTTOM	
13	4-885-979-21	(US, Canadian, AEP, WG) ... SCREW (4X28)		23	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
13	4-889-321-11	(UK) ... SCREW		24	7-685-874-09	SCREW +BVTT 3X12 (S)	
14	X-4933-001-1	(US, Canadian, AEP) ... PLATE (LEFT) ASSY, SIDE		901	1-557-577-11	(US, Canadian) ... CORD, POWER	
14	X-4933-003-1	(WG) ... PLATE (LEFT) ASSY, SIDE		901	1-574-804-11	(UK) ... CORD, POWER	
15	4-933-020-01	(EXCEPT FOR AE2) ... CASE		901	1-574-805-11	(AEP, WG) ... CORD, POWER	
15	4-933-020-11	(AE2) ... CASE					

4-2. SHASSIS SECTION



**Note:**  
The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

**Note:**  
Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
51	7-685-876-09	SCREW +BVTT 3X16 (S)		905	*A-4333-769-A	(US) ... MOUNTED PCB, MAIN (B)	
52	7-685-873-09	SCREW +BVTT 3X10 (S)		905	*A-4333-770-A	(Canadian) ... MOUNTED PCB, MAIN (B)	
53	*4-929-266-01	CUSHION		905	*A-4333-771-A	(WG) ... MOUNTED PCB, MAIN (B)	
54	7-684-024-04	N 4, TYPE 2		905	*A-4333-772-A	(UK) ... MOUNTED PCB, MAIN (B)	
55	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT		905	*A-4333-783-A	(AEP) ... MOUNTED PCB, MAIN (B)	
56	7-682-547-09	SCREW +BVTT 3X6 (S)		906	*1-533-183-11	(AEP, UK, WG) ... HOLDER, FUSE	
57	4-885-984-21	WASHER		906	*1-533-185-11	(US, Canadian) ... HOLDER, FUSE	
58	7-682-566-09	SCREW +B 4X20		907	*1-631-658-11	PC BOARD, SP. TM	
59	7-685-872-09	SCREW +BVTT 3X8 (S)		908	*1-631-656-11	PC BOARD, JUMPER	
60	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3		909	*1-631-655-11	PC BOARD, (A) CLASS	
61	4-933-025-01	(US) ... COLLAR		C320	1-125-568-11	ELECT 12000MF 20% 63V	
62	7-685-152-19	(US) ... SCREW +P 3X25 TYPE2 SLIT		C321	1-125-568-11	ELECT 12000MF 20% 63V	
62	7-685-647-79	(EXCEPT FOR US) ... SCREW +BVTP 3X10 TYPE 2 SLIT		C322	1-125-569-11	ELECT 5600MF 20% 63V	
63	*4-933-015-01	(EXCEPT FOR AE2) ... PANEL, BACK		C323	1-125-569-11	ELECT 5600MF 20% 63V	
63	*4-933-015-11	(AE2) ... PANEL, BACK		F1	1-532-350-00	(AEP, UK, WG) ... FUSE, TIME-LAG T4A	
64	7-621-849-00	SCREW, TAPPING		F1	1-532-510-00	(US, Canadian) ... FUSE, GLASS TUBE 8A	
65	*4-703-079-21	(UK) ... LABEL, CAUTION (BACK)		S1	1-554-538-00	SWITCH, PUSH (AC POWER)(1 KEY)	
66	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S		T1	1-449-787-11	(AEP, WG) ... TRANSFORMER, POWER	
67	7-621-849-00	(WG) ... SCREW, TAPPING		T1	1-449-789-11	(UK) ... TRANSFORMER, POWER	
67	7-685-647-79	(EXCEPT FOR WG) ... SCREW +BVTP 3X10 TYPE 2 N-S		T1	1-449-790-11	(US, Canadian) ... TRANSFORMER, POWER	
902	*1-631-657-11	PC BOARD, LED		TM301	1-537-246-11	(US, Canadian, AE1, UK) ... TERMINAL BOARD (SPEAKER)	
903	*1-631-654-11	PC BOARD, SELECTOR		TM301	1-537-246-31	(AE2) ... TERMINAL BOARD (SPEAKER)	
904	*1-631-870-11	PC BOARD, AC-SW					

NOTE:

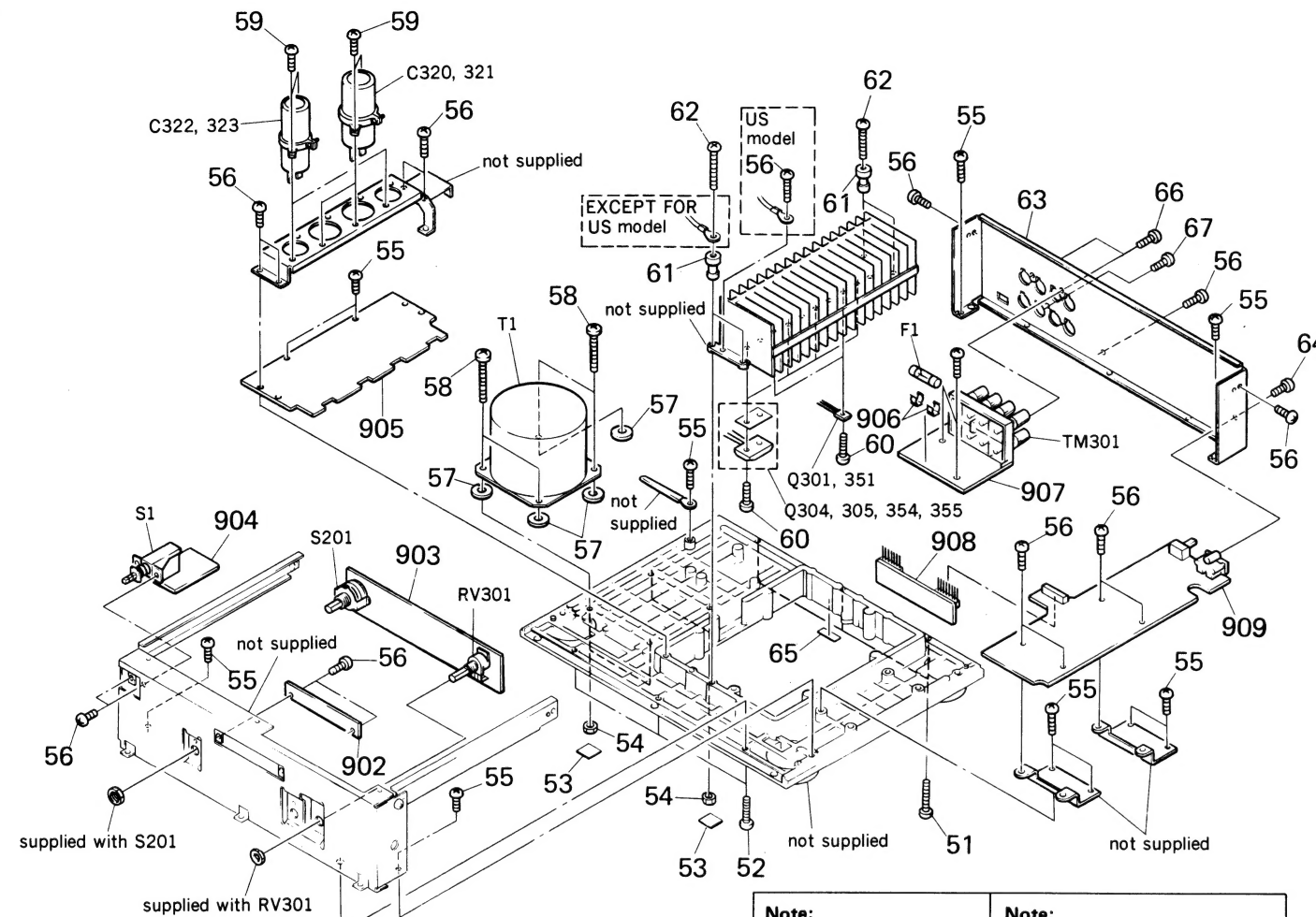
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there is a change in the circuit diagram, the diagram will be revised.

Ref.No	Part No.	Description	Remark
901	1-557-577-11	(US, Canadian) ... CORD, POWER	
901	1-574-804-11	(UK) ... CORD, POWER	
901	1-574-805-11	(AEP, WG) ... CORD, POWER	
902	*1-631-657-11	PC BOARD, LED	
903	*1-631-654-11	PC BOARD, SELECTOR	
904	*1-631-870-11	PC BOARD, AC-SW	
905	*A-4333-769-A	(US) ... MOUNTED PCB, MAIN (B)	
905	*A-4333-770-A	(Canadian) ... MOUNTED PCB, MAIN (B)	
905	*A-4333-771-A	(WG) ... MOUNTED PCB, MAIN (B)	
905	*A-4333-772-A	(UK) ... MOUNTED PCB, MAIN (B)	
905	*A-4333-783-A	(AEP) ... MOUNTED PCB, MAIN (B)	
906	*1-533-183-11	(AEP, UK, WG) ... HOLDER, FUSE	
906	*1-533-185-11	(US, Canadian) ... HOLDER, FUSE	
907	*1-631-658-11	PC BOARD, SP. TM	
908	*1-631-656-11	PC BOARD, JUMPER	
909	*1-631-655-11	PC BOARD, (A) CLASS	
C101	1-101-101-11	...	
C102	1-101-102-11	...	
C151	1-101-151-11	...	
C205	1-101-205-11	...	
C206	1-101-206-11	...	
C207	1-101-207-11	...	
C208	1-101-208-11	...	
C209	1-101-209-11	...	
C301	1-101-301-11	...	
C302	1-101-302-11	...	
C303	1-101-303-11	...	
C304	1-101-304-11	...	
C305	1-101-305-11	...	
C306	1-101-306-11	...	
C307	1-101-307-11	...	
C308	1-101-308-11	...	
C309	1-101-309-11	...	
C310	1-101-310-11	...	
C311	1-101-311-11	...	
C312	1-101-312-11	...	
C313	1-101-313-11	...	
C314	1-101-314-11	...	
C315	1-101-315-11	...	
C317	1-101-317-11	...	
C318	1-101-318-11	...	
C319	1-101-319-11	...	
C320	1-101-320-11	...	
C321	1-101-321-11	...	
C322	1-101-322-11	...	
C323	1-101-323-11	...	
C324	1-101-324-11	...	
C325	1-101-325-11	...	
C326	1-101-326-11	...	
C327	1-101-327-11	...	
C328	1-101-328-11	...	



SECTION 5  
ELECTRICAL PARTS LIST

## 4-2. SHASSIS SECTION



**Note:**  
The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

**Note:**  
Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No	Part No.	Description	Remark
51	7-685-876-09	SCREW +BVTT 3X16 (S)	
52	7-685-873-09	SCREW +BVTT 3X10 (S)	
53	*4-929-266-01	CUSHION	
54	7-684-024-04	N 4, TYPE 2	
55	7-685-647-79	SCREW +BVTP 3X10 TYPE2 SLIT	
56	7-682-547-09	SCREW +BVTT 3X6 (S)	
57	4-885-984-21	WASHER	
58	7-682-566-09	SCREW +B 4X20	
59	7-685-872-09	SCREW +BVTT 3X8 (S)	
60	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
61	4-933-025-01	(US)....COLLAR	
62	7-685-152-19	(US)....SCREW +P 3X25 TYPE2 SLIT	
62	7-685-647-79	(EXCEPT FOR US)....SCREW +BVTP 3X10 TYPE 2 SLIT	
63	*4-933-015-01	(EXCEPT FOR AE2)....PANEL, BACK	
63	*4-933-015-11	(AE2)....PANEL, BACK	
64	7-621-849-00	SCREW, TAPPING	
65	*4-703-079-21	(UK)....LABEL, CAUTION (BACK)	
66	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
67	7-621-849-00	(WG)....SCREW, TAPPING	
67	7-685-647-79	(EXCEPT FOR WG)....SCREW +BVTP 3X10 TYPE 2 N-S	
902	*1-631-657-11	PC BOARD, LED	
903	*1-631-654-11	PC BOARD, SELECTOR	
904	*1-631-870-11	PC BOARD, AC-SW	

Ref.No	Part No.	Description	Remark
905	*A-4333-769-A	(US)....MOUNTED PCB, MAIN (B)	
905	*A-4333-770-A	(Canadian)....MOUNTED PCB, MAIN (B)	
905	*A-4333-771-A	(WG)....MOUNTED PCB, MAIN (B)	
905	*A-4333-772-A	(UK)....MOUNTED PCB, MAIN (B)	
905	*A-4333-783-A	(AEP)....MOUNTED PCB, MAIN (B)	
906	*1-533-183-11	(AEP, UK, WG)....HOLDER, FUSE	
906	*1-533-185-11	(US, Canadian)....HOLDER, FUSE	
907	*1-631-658-11	PC BOARD, SP.TM	
908	*1-631-656-11	PC BOARD, JUMPER	
909	*1-631-655-11	PC BOARD, (A) CLASS	
C320	1-125-568-11	ELECT 12000MF 20% 63V	
C321	1-125-568-11	ELECT 12000MF 20% 63V	
C322	1-125-569-11	ELECT 5600MF 20% 63V	
C323	1-125-569-11	ELECT 5600MF 20% 63V	
F1	*1-532-350-00	(AEP, UK, WG)....FUSE, TIME-LAG T4A	
F1	*1-532-510-00	(US, Canadian)....FUSE, GLASS TUBE 8A	
S1	*1-554-538-00	SWITCH, PUSH (AC POWER)(1 KEY)	
T1	*1-449-787-11	(AEP, WG)....TRANSFORMER, POWER	
T1	*1-449-789-11	(UK)....TRANSFORMER, POWER	
T1	*1-449-790-11	(US, Canadian)....TRANSFORMER, POWER	
TM301	1-537-246-11	(US, Canadian, AE1, UK)....TERMINAL BOARD (SPEAKER)	
TM301	1-537-246-21	(WG)....TERMINAL BOARD (SPEAKER)	
TM301	1-537-246-31	(AE2)....TERMINAL BOARD (SPEAKER)	

## NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:  
MF:  $\mu$ F, PF:  $\mu$ F.

RESISTORS  
• All resistors are in ohms.  
• F: nonflammable

COILS  
• MMH: mH, UH:  $\mu$ H

SEMICONDUCTORS  
In each case, U:  $\mu$ , for example:  
UA....  $\mu$ A...., UPA....  $\mu$ PA....,  
UPC....  $\mu$ PC, UPD....  $\mu$ PD....

The components identified by mark  $\Delta$  or dotted line with mark  $\Delta$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque  $\Delta$  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

WG: West Germany

Ref.No	Part No.	Description	Remark	Ref.No	Part No.	Description	Remark
901	*1-557-577-11	(US, Canadian)....CORD, POWER		C329	1-104-278-91	POLYSTYRENE 100PF 5%	50V
901	*1-574-804-11	(UK)....CORD, POWER		C330	1-161-370-00	(WG)....CERAMIC 0.01MF 30%	25V
901	*1-574-805-11	(AEP, WG)....CORD, POWER		C351	1-104-276-11	POLYSTYRENE 68PF 10%	50V
902	*1-631-657-11	PC BOARD, LED		C352	1-124-915-11	ELECT 10MF 20%	63V
903	*1-631-654-11	PC BOARD, SELECTOR		C353	1-104-276-11	POLYSTYRENE 68PF 10%	50V
904	*1-631-870-11	PC BOARD, AC-SW		C354	1-124-130-00	ELECT 100MF 20%	63V
905	*A-4333-769-A	(US)....MOUNTED PCB, MAIN (B)		C355	1-107-276-11	MICA 3PF 0.5PF	500V
905	*A-4333-770-A	(Canadian)....MOUNTED PCB, MAIN (B)		C358	1-107-206-00	MICA 15PF 5%	500V
905	*A-4333-771-A	(WG)....MOUNTED PCB, MAIN (B)		C359	1-124-929-11	ELECT 22MF 20%	63V
905	*A-4333-772-A	(UK)....MOUNTED PCB, MAIN (B)		C360	1-107-159-00	MICA 33PF 5%	500V
905	*A-4333-783-A	(AEP)....MOUNTED PCB, MAIN (B)		C361	1-107-159-00	MICA 33PF 5%	500V
906	*1-533-183-11	(AEP, UK, WG)....HOLDER, FUSE		C362	1-136-161-00	FILM 0.047MF 5%	50V
906	*1-533-185-11	(US, Canadian)....HOLDER, FUSE		C375	1-136-161-00	FILM 0.047MF 5%	50V
907	*1-631-658-11	PC BOARD, SP.TM		C376	1-130-471-00	(WG)....FILM 0.001MF 5%	50V
908	*1-631-656-11	PC BOARD, JUMPER		C377	1-109-621-00	(WG)....MICA 220PF 5%	500V
909	*1-631-655-11	PC BOARD, (A) CLASS		C378	1-130-471-00	(WG)....FILM 0.001MF 5%	50V
CAPACITOR				C379	1-104-278-91	POLYSTYRENE 100PF 5%	50V
C101	1-104-276-11	(WG)....POLYSTYRENE 68PF 10%	50V	C408	1-124-918-11	(US)....ELECT 47MF 20%	63V
C102	1-124-915-11	ELECT 10MF 20%	63V	C408	1-123-377-00	(EXCEPT FOR US)....ELECT 470MF 20%	63V
C151	1-104-276-11	(WG)....POLYSTYRENE 68PF 10%	50V	C409	1-124-918-11	(US)....ELECT 47MF 20%	63V
C205	1-123-369-00	ELECT 4.7MF 20%	63V	C409	1-123-377-00	(EXCEPT FOR US)....ELECT 470MF 20%	63V
C206	1-123-380-00	ELECT 1MF 20%	63V	C410	1-124-918-11	(US)....ELECT 47MF 20%	63V
C207	1-124-918-11	ELECT 47MF 20%	63V	C410	1-123-377-00	(EXCEPT FOR US)....ELECT 470MF 20%	63V
C208	1-130-475-00	MYLAR 0.0022MF 5%	50V	C411	1-124-918-11	(US)....ELECT 47MF 20%	63V
C209	1-130-475-00	MYLAR 0.0022MF 5%	50V	C411	1-123-377-00	(EXCEPT FOR US)....ELECT 470MF 20%	63V
C301	1-104-276-11	POLYSTYRENE 68PF 10%	50V	C501	*1-161-741-00	CERAMIC 0.001MF 10%	400V
C302	1-124-915-11	ELECT 10MF 20%	63V	CN18	*1-563-381-11	SOCKET, CONNECTOR 11P	
C303	1-104-276-11	POLYSTYRENE 68PF 10%	50V	CN10	*1-563-381-11	SOCKET, CONNECTOR 11P	
C304	1-124-130-00	ELECT 100MF 20%	63V	CNP2	*1-565-792-11	PIN, CONNECTOR 2P	
C305	1-107-276-11	MICA 3PF 0.5PF	500V	CNP3	*1-564-321-00	PIN, CONNECTOR 2P	
C306	1-123-369-00	ELECT 4.7MF 20%	63V	CNP4	*1-564-241-00	PIN, CONNECTOR 4P	
C307	1-123-369-00	ELECT 4.7MF 20%	63V	CNP5	*1-564-241-00	PIN, CONNECTOR 4P	
C308	1-107-206-00	MICA 15PF 5%	500V	CNP8	1-568-203-11	PIN, CONNECTOR (PC BOARD) 11P	
C309	1-124-929-11	ELECT 22MF 20%	63V	CNP10	1-568-203-11	PIN, CONNECTOR (PC BOARD) 11P	
C310	1-107-159-00	MICA 33PF 5%	500V	D201	8-719-912-20	DIODE 1SS120	
C311	1-107-159-00	MICA 33PF 5%	500V	D202	8-719-912-20	DIODE 1SS120	
C312	1-136-161-00	FILM 0.047MF 5%	50V	D203	8-719-303-00	DIODE SEL2510C	
C313	1-123-369-00	ELECT 4.7MF 20%	63V	D204	8-719-303-00	DIODE SEL2510C	
C314	1-123-333-00	ELECT 100MF 20%	25V	D205	8-719-301-39	DIODE SEL2210S	
C315	1-130-487-00	MYLAR 0.022MF 5%	50V	D206	8-719-912-20	DIODE 1SS120	
C317	1-123-330-00	ELECT 22MF 20%	16V	D207	8-719-912-20	DIODE 1SS120	
C318	1-124-919-11	ELECT 220MF 20%	63V	D301	8-719-230-02	DIODE 30DF2	
C319	1-124-499-11	ELECT 1MF 20%	100V	D302	8-719-230-02	DIODE 30DF2	
C320	1-125-568-11	ELECT 12000MF 20%	63V	D303	8-719-230-02	DIODE 30DF2	
C321	1-125-568-11	ELECT 12000MF 20%	63V	D304	8-719-230-02	DIODE 30DF2	
C322	1-125-569-11	ELECT 5600MF 20%	63V	D305	8-719-200-77	DIODE 10E2N	
C323	1-125-569-11	ELECT 5600MF 20%	63V	D306	8-719-200-77	DIODE 10E2N	
C324	1-136-601-11	FILM 0.01MF 10%	630V	D307	8-719-200-77	DIODE 10E2N	
C325	1-136-161-00	FILM 0.047MF 5%	50V	D308	8-719-200-77	DIODE 10E2N	
C326	1-130-471-00	(WG)....FILM 0.001MF 5%	50V				
C327	1-109-621-00	(WG)....MICA 220PF 5%	500V				
C328	1-130-471-00	(WG)....FILM 0.001MF 5%	50V				

Ref.No	Part No.	Description
D309	8-719-200-77	DIODE 10E2N
D310	8-719-200-77	DIODE 10E2N
D311	8-719-200-77	DIODE 10E2N
D312	8-719-912-20	DIODE 1SS120
D313	8-719-912-20	DIODE 1SS120
D314	8-719-912-20	DIODE 1SS120
D362	8-719-912-20	DIODE 1SS120
D363	8-719-912-20	DIODE 1SS120
D364	8-719-912-20	DIODE 1SS120
EH1	*1-564-507-11	PLUG, CONNECTOR 4P
EH2	*1-564-506-11	PLUG, CONNECTOR 3P
EH3	*1-564-507-11	PLUG, CONNECTOR 4P
EH4	*1-564-506-11	PLUG, CONNECTOR 3P
EH5	*1-564-506-11	PLUG, CONNECTOR 3P
EH6	*1-564-508-11	PLUG, CONNECTOR 5P
F1	△ 1-532-350-00	(AEP, UK, WG)....FUSE, TIME-LAG T4A
F1	△ 1-532-510-00	(US, Canadian)....FUSE, GLASS TUBE 8A
IC101	8-759-602-83	IC M5238P
IC102	8-759-604-39	IC M5F78M12
IC103	8-759-604-45	IC M5F79M12
IC301	8-749-920-70	IC STK3102-3
IC302	8-759-111-68	IC UPC1237HA
L301	*1-420-872-00	COIL, AIR CORE
L351	*1-420-872-00	COIL, AIR CORE
PJ101	1-568-250-11	JACK, PIN 2P (INPUT MONO)
PTH301	1-202-850-00	(US)....THERMISTOR (POSITIVE)
PTH303	1-202-850-00	(US)....THERMISTOR (POSITIVE)
PTH351	1-202-850-00	(US)....THERMISTOR (POSITIVE)
Q201	8-729-140-96	TRANSISTOR 2SD774-34
Q202	8-729-194-57	TRANSISTOR 2SC945-P
Q203	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q204	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q301	8-729-203-45	TRANSISTOR 2SC3423-O
Q302	8-729-127-53	TRANSISTOR 2SC2275-P
Q303	8-729-190-53	TRANSISTOR 2SA985A-P
Q304	8-729-320-03	TRANSISTOR 2SC2921M-O
Q305	8-729-320-01	TRANSISTOR 2SA1215M-O
Q306	8-729-204-91	TRANSISTOR 2SA1049
Q351	8-729-203-45	TRANSISTOR 2SC3423-O
Q352	8-729-127-53	TRANSISTOR 2SC2275-P
Q353	8-729-190-53	TRANSISTOR 2SA985A-P
Q354	8-729-320-03	TRANSISTOR 2SC2921M-O
Q355	8-729-320-01	TRANSISTOR 2SA1215M-O
Q356	8-729-204-91	TRANSISTOR 2SA1049
<b>RESISTOR</b>		
R101	1-247-713-11	(WG)....CARBON 1K 5% 1/4W
R102	1-247-713-11	CARBON 1K 5% 1/4W
R103	1-247-725-11	CARBON 10K 5% 1/4W
R104	1-249-583-11	CARBON 20K 5% 1/4W
R105	1-247-704-11	CARBON 220 5% 1/4W
R106	1-249-469-11	CARBON 100K 5% 1/4W
R107	1-247-725-11	CARBON 10K 5% 1/4W
R151	1-247-713-11	(WG)....CARBON 1K 5% 1/4W
R214	1-247-693-11	CARBON 27 5% 1/4W
R215	1-247-229-00	CARBON 360 5% 1/2W
R216	1-247-229-00	CARBON 360 5% 1/2W
R217	1-247-237-00	CARBON 750 5% 1/2W
R218	1-249-462-11	CARBON 22K 5% 1/4W
R219	1-249-465-11	CARBON 47K 5% 1/4W
R221	1-247-717-11	CARBON 2.2K 5% 1/4W
R222	1-247-237-00	CARBON 750 5% 1/2W

Ref.No	Part No.	Description			
R223	1-249-465-11	CARBON	47K	5%	1/4W
R224	1-247-721-11	CARBON	4.7K	5%	1/4W
R225	1-247-744-11	CARBON	270	5%	1/2W
R227	1-247-747-11	CARBON	470	5%	1/2W
R228	1-247-747-11	CARBON	470	5%	1/2W
R229	1-247-703-11	CARBON	180	5%	1/4W
R230	1-247-747-11	CARBON	470	5%	1/2W
R231	1-247-747-11	CARBON	470	5%	1/2W
R232	1-247-725-11	CARBON	10K	5%	1/4W
R301	1-247-713-11	CARBON	1K	5%	1/4W
R302	1-249-599-11	CARBON	91K	5%	1/4W
R303	1-249-797-11	CARBON	620	1%	1/2W
R304	△ 1-247-713-11	CARBON	1K	5%	1/4W
R305	△ 1-247-707-11	CARBON	390	5%	1/4W
R306	△ 1-219-030-11	FUSIBLE	220	5%	1/2W
R307	△ 1-217-989-11	FUSIBLE	4.7	5%	1/2W
R308	△ 1-217-989-11	FUSIBLE	4.7	5%	1/2W
R309	1-217-611-00	METAL PLATE	0.1		1W
R310	1-217-611-00	METAL PLATE	0.1		1W
R311	△ 1-247-717-11	CARBON	2.2K	5%	1/4W
R312	1-249-460-11	CARBON	15K	5%	1/4W
R313	△ 1-219-002-11	FUSIBLE	15	5%	1/2W
R314	△ 1-219-002-11	FUSIBLE	15	5%	1/2W
R315	1-247-891-00	CARBON	330K	5%	1/4W
R316	1-247-725-11	CARBON	10K	5%	1/4W
R317	1-247-887-00	CARBON	220K	5%	1/4W
R318	1-247-885-00	CARBON	180K	5%	1/4W
R319	1-249-461-11	CARBON	18K	5%	1/4W
R320	1-247-721-11	CARBON	4.7K	5%	1/4W
R321	1-249-462-11	CARBON	22K	5%	1/4W
R323	△ 1-212-849-00	FUSIBLE	4.7	5%	1/4W
R324	1-247-727-11	CARBON	10	5%	1/2W
R326	1-249-850-11	CARBON	100K	1%	1/2W
R327	1-247-708-11	CARBON	470	5%	1/4W
R330	1-247-727-11	(WG)....CARBON 10	5%	1/2W	
R331	1-247-727-11	(WG)....CARBON 10	5%	1/2W	
R351	1-247-713-11	CARBON	1K	5%	1/4W
R352	1-249-599-11	CARBON	91K	5%	1/4W
R353	1-249-797-11	CARBON	620	1%	1/2W
R354	△ 1-247-713-11	CARBON	1K	5%	1/4W
R355	△ 1-247-707-11	CARBON	390	5%	1/4W
R356	△ 1-219-030-11	FUSIBLE	220	5%	1/2W
R357	△ 1-217-989-11	FUSIBLE	4.7	5%	1/2W
R358	△ 1-217-989-11	FUSIBLE	4.7	5%	1/2W
R359	1-217-611-00	METAL PLATE	0.1		1W
R360	1-217-611-00	METAL PLATE	0.1		1W
R361	△ 1-247-717-11	CARBON	2.2K	5%	1/4W
R362	1-249-460-11	CARBON	15K	5%	1/4W
R363	△ 1-219-002-11	FUSIBLE	15	5%	1/2W
R364	△ 1-219-002-11	FUSIBLE	15	5%	1/2W
R365	1-247-887-00	CARBON	220K	5%	1/4W
R374	1-247-727-11	CARBON	10	5%	1/2W
R376	1-249-850-11	CARBON	100K	1%	1/2W
R377	1-247-708-11	CARBON	470	5%	1/4W
R380	1-247-727-11	(WG)....CARBON 10	5%	1/2W	
R381	1-247-727-11	(WG)....CARBON 10	5%	1/2W	
R401	△ 1-215-920-11	METAL OXIDE	3.3K	5%	3W
R402	△ 1-215-920-11	METAL OXIDE	3.3K	5%	3W
RT301	1-237-455-11	RES, ADJ, CARBON	500		
RT351	1-237-455-11	RES, ADJ, CARBON	500		
RV301	1-238-656-11	RES, VAR, CARBON 20K/20K	(ATTENUATO R)		
RY301	1-515-676-11	RELAY			
RY302	1-515-676-11	RELAY			

**Note:**

The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

**Note:**

Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



Ref.No	Part No.	Description	Remark
S1	△ 1-554-538-00	SWITCH, PUSH (AC POWER)(1 KEY)	
S101	1-572-010-11	SWITCH, SLIDE (INPUT OPERATION)	
S201	1-572-008-11	SWITCH, ROTARY (SPEAKERS)	
T1	△ 1-449-787-11	(AEP, WG)....TRANSFORMER, POWER	
T1	△ 1-449-789-11	(UK)....TRANSFORMER, POWER	
T1	△ 1-449-790-11	(US, Canadian)....TRANSFORMER, POWER	
TM301	1-537-246-11	(US, Canadian, AE1, UK)....TERMINAL BOARD (SPEAKER)	
TM301	1-537-246-21	(WG)....TERMINAL BOARD (SPEAKER)	
TM301	1-537-246-31	(AE2)....TERMINAL BOARD (SPEAKER)	

Ref.No	Part No.	Description	Remark
ACCESSORIES AND PACKING MATERIALS			
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*2-135-414-01		(EXCEPT FOR UK)....SHEET, PROTECTION	
3-703-450-01		(US)....INSTRUCTION	
3-750-794-11		(US, Canadian, AE1, UK)....MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, PORTUGUESE)	
3-750-794-41		(AE2, WG)....MANUAL, INSTRUCTION (GERMAN, DUTCH, SWEDISH, ITALIAN)	
4-847-802-00		SCREW	
*4-933-001-01		CUSHION	
4-933-004-01		INDIVIDUAL CARTON	

<b>Note:</b> The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	<b>Note:</b> Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.
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